This Page Is Inserted by IFW Operations and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents will not correct images, please do not report the images to the Image Problem Mailbox.



OIPE

RAW SEQUENCE LISTING

DATE: 11/27/2001

PATENT APPLICATION: US/09/887,593

TIME: 12:40:52

Input Set : N:\Crf3\RULE60\09887593.txt Output Set: N:\CRF3\11272001\1887593.raw

```
3 <110> APPLICANT: Afar, Daniel E.
         Hubert, Rene S.
 5
         Leong, Kahan
         Raitano, Arthur B.
 6
 7
         Saffran, Douglas C.
         Jakobovits, Aya
10 <120> TITLE OF INVENTION: BPC-1: A SECRETED BRAIN-SPECIFIC PROTEIN EXPRESSED AND
         SECRETED BY PROSTATE AND BLADDER CANCER CELLS
13 <130> FILE REFERENCE: 1703-017.US1
15 <140> CURRENT APPLICATION NUMBER: 09/887,593
16 <141> CURRENT FILING DATE: 2001-06-21
18 <150> PRIOR APPLICATION NUMBER: 09/374,135
19 <151> PRIOR FILING DATE: 1999-08-10
21 <150> PRIOR APPLICATION NUMBER: 60/095,982
                                                      ENTERED
22 <151> PRIOR FILING DATE: 1998-08-10
24 <160> NUMBER OF SEQ ID NOS: 20
26 <170> SOFTWARE: PatentIn Ver. 2.1
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 2639
30 <212> TYPE: DNA
31 <213> ORGANISM: Homo sapiens
33 <400> SEQUENCE: 1
34 cageceeggg gegeeggeeg egegeageet egetateeea eeeaggetee gegetteeag 60
35 gagggtegeg gageeecaag eeatgaetaa ggageeeatt tgatageaga ggtggegege 120
36 agcccggcga gccgatgacg gaccccttct tcctgccttc aatgcctcag cggaagatcc 180
37 ccaagggetg gagegaggag egetgeeget ggacateete eeggggagge tgeteegaee 240
38 tgctgcgcgg cgcgtctgag actggggact gagccactcc gccgccgccg gcgccgccgc 300
39 egeegeeege teegtegetg eegteggtet ggaetggeee eeaceteget gegeeetete 360
40 cocggecceg geoceggete ggggegtece ggggetegee etgegacege egeetecege 420
41 gegeegegte etecegaeee egeggeggeg aegatgeeeg ggaggagggt eetgaeggeg 480
42 gcggcgcgga tggtggcggc cggcgcccgg gtgtgatgcg agcgtcacgg tggggatgct 540
43 getggetgeg eggegetgag ggeeagegag agegagagee egeeegggge ggaggaegga 600
44 ctcatccgga tctggctgca gcgtgggctc ggagctcccc cttcctctcg gtctccctct 660
45 eggeeecet ttattteett ettgetttge gtetttaaca eetetegaee etgteeteee 720
46 cocgcoactg gaagtettee egtetetaaa tggaattagt ggageeegga geetetggtg 780
47 taacgcacag acatgatcca tgggcgcagc gtgcttcaca ttgtagcaag tttaatcatc 840
48 ctccatttgt ctggggcaac caagaaagga acagaaaagc aaaccacctc agaaacacag 900
49 aagtcagtgc agtgtggaac ttggacaaaa catgcagagg gaggtatctt tacctctccc 960
50 aactateeca geaagtatee eeetgaeegg gaatgeatet acateataga ageegeteea 1020
51 agacagtgca ttgaacttta ctttgatgaa aagtactcta ttgaaccgtc ttgggagtgc 1080
52 aaatttgatc atattgaagt tcgagatgga ccttttggct tttctccaat aattggacgt 1140
53 ttctgtggac aacaaaatcc acctgtcata aaatccagtg gaagatttct atggattaaa 1200
54 ttttttgctg atggagagct ggaatctatg ggattttcag ctcgatacaa tttcacacct 1260
55 ggtaagtaag tacttaaaaa aaaaatttct ttttcttcct catttttcta tcttcatagt 1320
56 acaaaatctt gtgtaagaca acattatact ttctcagaga atgttccagt tctatttaaa 1380
57 accaaatcta cagtgetttt tetttteeet acacaaatte tgaaaggaaa agatgtttte 1440
```

58 cttaaaacag cctatactag aggtaaagag tagtgactca aggctctaaa tgggcatcag 1500

Input Set : N:\Crf3\RULE60\09887593.txt
Output Set: N:\CRF3\11272001\1887593.raw

```
59 ccacatcatc aagtggactt ttgttatgat ggaatgtgta attggagaga cagtctgtga 1560
60 taaggaaact atacatagga gctgaataaa cttgaaaaga caattgtagt attataaaat 1620
61 atatccacca aaatgatctt tggggaactt gaatcaaaag tttatttgtt ctgaaaatta 1680
62 cogtgtttca atcaaataga tootacttta ggaagtagto tgototottt toaggaaago 1740
63 aaattettaa gagttttgat gaaaggaaaa etgagaeetg taacageeaa ataeteattt 1800
64 acaaggtett geagaaattg tgtgeaatta teaaattatg eaatetgtat eaatttteet 1860
65 tttaactcgc tagaattaaa aagatcctgt gttgttgcct ggcccacttg attaagagtt 1920
66 accattcatt acaataaaaa taggttatca cattttttca ctgcaagaac actacatgca 1980
67 ttaatttaaa tggaaaaatg attcaaatta cataaagccc attttttata tagtttgttt 2040
68 tcagtttgta tgtattgttt tatttaagtt aggcaatagc ataatttcaa atatatgtaa 2100
69 agttggttga agtttgtatt ccatgttaaa gaagtaacat ctaaatacag ctttgatact 2160
70 cagttaaaaa actaaaattt taaaaattat taatataagt ttaatgatga ctttcattat 2220
71 gacatcatgg ggtatgttaa atcaagtatt tactgtagca tatatattag ctttaagcat 2280
72 taggaatgtt tttaataata tcactaaagg attgtggttt taattatgct ttgctgataa 2340
73 tggattactc acagaaatca tgggtatttc atgtgctaca gtcgaactaa tttgaagtat 2400
74 tcccaaaagg tacaaatgtt agcttaattt gtttgttcag attattagtg ctagagttgt 2460
75 aaatggaaag gtaggtattt ttttcttaac tgataatttt gaatataacc tgtacctaga 2520
76 gacagtgaca tacggcatgt tctaggtttc ataagttata ttttcattct gggtttggtg 2580
77 atcatgaaaa taatgtcttg gatttaaaat tgtggtttca caaaaaaaaa aaaaaaaa 2639
80 <210> SEQ ID NO: 2
81 <211> LENGTH: 158
82 <212> TYPE: PRT
83 <213> ORGANISM: Homo sapiens
85 <400> SEQUENCE: 2
86 Met Ile His Gly Arg Ser Val Leu His Ile Val Ala Ser Leu Ile Ile
87
                                        10
89 Leu His Leu Ser Gly Ala Thr Lys Lys Gly Thr Glu Lys Gln Thr Thr
92 Ser Glu Thr Gln Lys Ser Val Gln Cys Gly Thr Trp Thr Lys His Ala
95 Glu Gly Gly Ile Phe Thr Ser Pro Asn Tyr Pro Ser Lys Tyr Pro Pro
                            55
98 Asp Arg Glu Cys Ile Tyr Ile Ile Glu Ala Ala Pro Arg Gln Cys Ile
                        70
                                            75
101 Glu Leu Tyr Phe Asp Glu Lys Tyr Ser Ile Glu Pro Ser Trp Glu Cys
102
104 Lys Phe Asp His Ile Glu Val Arg Asp Gly Pro Phe Gly Phe Ser Pro
105
                100
                                    105
107 Ile Ile Gly Arg Phe Cys Gly Gln Gln Asn Pro Pro Val Ile Lys Ser
108
            115
                                120
                                                    125
110 Ser Gly Arg Phe Leu Trp Ile Lys Phe Phe Ala Asp Gly Glu Leu Glu
                            135
113 Ser Met Gly Phe Ser Ala Arg Tyr Asn Phe Thr Pro Gly Lys
114 145
                        150
117 <210> SEQ ID NO: 3
118 <211> LENGTH: 115
119 <212> TYPE: PRT
120 <213> ORGANISM: Caenorhabditis elegans
122 <400> SEQUENCE: 3
```

Input Set : N:\Crf3\RULE60\09887593.txt
Output Set: N:\CRF3\11272001\1887593.raw

123 Ile Phe Thr Ser Pro Asn Phe Pro Asp Arg Tyr Pro Pro Asn Ile Asp 10 126 Cys Val Arg Val Ile His Ser Arg Pro Gln His Asp Val Val Lys 129 Phe His His Val Phe His Ile Glu Ser Thr Tyr Asp Lys Ile Asp Ala 40 132 Gly Glu Glu Cys Pro Asn Asp Phe Ile Glu Phe Arg Asp Gly Arg Tyr 135 Gly Phe Ser Pro Leu Ile Ala Arg Phe Cys Gly Asp Arg Met Pro Lys 138 Arg Glu Ile Arg Ala Val Ser Gly Phe Leu Trp Ile Arg Phe Arg Ser 85 141 Asp Ser Met Leu Glu Tyr Gln Gly Phe Ser Ala Glu Tyr Ala Ile Val 144 Pro Ser Lys 145 115 148 <210> SEQ ID NO: 4 149 <211> LENGTH: 101 150 <212> TYPE: PRT 151 <213> ORGANISM: Mouse 153 <400> SEQUENCE: 4 154 Gly Asn Phe Ser Ser Pro Glu Tyr Pro Asn Gly Tyr Ser Ala His Met 155 1 5 157 His Cys Val Trp Arg Ile Ser Val Thr Pro Gly Glu Lys Ile Ile Leu 20 25 160 Asn Phe Thr Ser Met Asp Leu Tyr Arg Ser Arg Leu Cys Trp Tyr Asp 40 163 Tyr Val Glu Val Arg Asp Gly Phe Trp Arg Lys Val Trp Val Arg Gly 166 Arg Phe Cys Gly Gly Lys Leu Pro Glu Pro Ile Val Ser Thr Asp Ser 70 169 Arg Leu Trp Val Glu Phe Arg Ser Ser Ser Asn Trp Val Gly Lys Gly 85 172 Phe Phe Ala Val Tyr 176 <210> SEQ ID NO: 5 177 <211> LENGTH: 103 178 <212> TYPE: PRT 179 <213> ORGANISM: Mouse 181 <400> SEQUENCE: 5 182 Asp Asn Gly His Ile Gln Ser Pro Asn Tyr Pro Asp Asp Tyr Arg Pro 10 185 Ser Lys Val Cys Ile Trp Arg Ile Gln Val Ser Glu Gly Phe His Val 188 Gly Leu Thr Phe Gln Ser Phe Glu Ile Glu Arg His Asp Ser Cys Ala 35 40 191 Tyr Asp Tyr Leu Glu Val Arg Asp Gly His Ser Glu Ser Ser Asn Leu 55 194 Ile Gly Arg Tyr Cys Gly Tyr Glu Asn Pro Asp Asp Ile Lys Ser Thr

75

Input Set : N:\Crf3\RULE60\09887593.txt
Output Set: N:\CRF3\11272001\1887593.raw

```
197 Ser Ser Arg Leu Trp Leu Lys Phe Val Ser Asp Gly Ser Ile Asn Lys
                     85
                                          90
200 Ala Gly Phe Ala Val Asn Phe
201
                100
204 <210> SEQ ID NO: 6
205 <211> LENGTH: 101
206 <212> TYPE: PRT
207 <213> ORGANISM: Mouse
209 <400> SEQUENCE: 6
210 Gly Ser Ile Thr Ser Pro Gly Trp Pro Lys Glu Tyr Pro Pro Asn Lys
211 1
                      5
                                         10
213 Asn Cys Ile Trp Gln Leu Val Ala Pro Thr Gln Tyr Arg Ile Ser Leu
                 20
216 Gln Phe Asp Phe Phe Glu Thr Glu Gly Asn Asp Val Cys Lys Tyr Asp
                                 40
219 Phe Val Glu Val Arg Ser Gly Leu Thr Ala Asp Ser Lys Leu His Gly
         50
                             55
222 Lys Phe Cys Gly Ser Glu Lys Pro Glu Val Ile Thr Ser Gln Tyr Asn
                         70
                                              75
225 Asn Met Arg Val Glu Phe Lys Ser Asp Asn Thr Val Ser Lys Lys Gly
                     85
228 Phe Lys Ala His Phe
229
232 <210> SEQ ID NO: 7
233 <211> LENGTH: 102
234 <212> TYPE: PRT
235 <213> ORGANISM: Mouse
237 <400> SEQUENCE: 7
238 Gly Thr Ile Thr Ser Pro Asn Trp Pro Asp Lys Tyr Pro Ser Lys Lys
241 Glu Cys Thr Trp Ala Ile Ser Ser Thr Pro Gly His Arg Val Lys Leu
                 20
                                     25
244 Thr Phe Val Glu Met Asp Ile Glu Ser Gln Pro Glu Cys Ala Tyr Asp
247 His Leu Glu Val Phe Asp Gly Arg Asp Ala Lys Ala Pro Val Leu Gly
250 Arg Phe Cys Gly Ser Lys Lys Pro Glu Pro Val Leu Ala Thr Gly Asn
                                              75
                         70
253 Arg Met Phe Leu Arg Phe Tyr Ser Asp Asn Ser Val Gln Arg Lys Gly
256 Phe Gln Ala Ser His Ser
257
                100
260 <210> SEQ ID NO: 8
261 <211> LENGTH: 95
262 <212> TYPE: PRT
263 <213> ORGANISM: Mouse
265 <400> SEQUENCE: 8
266 Asn Asn Tyr Pro Gly Gly Val Asp Cys Glu Trp Val Ile Val Ala Glu
```

195 65

Input Set : N:\Crf3\RULE60\09887593.txt
Output Set: N:\CRF3\11272001\1887593.raw

267 269 Glu Gly Tyr Gly Val Glu Leu Val Phe Gln Thr Phe Glu Val Glu Glu 25 272 Glu Thr Asp Cys Gly Tyr Asp Tyr Ile Glu Leu Phe Asp Gly Tyr Asp 40 275 Ser Thr Ala Pro Arg Leu Gly Arg Tyr Cys Gly Ser Gly Pro Pro Glu 278 Glu Val Tyr Ser Ala Gly Asp Ser Val Leu Val Lys Phe His Ser Asp 70 279 281 Asp Thr Ile Ser Lys Lys Gly Phe His Leu Arg Tyr Thr Ser Thr 85 282 285 <210> SEQ ID NO: 9 286 <211> LENGTH: 14 287 <212> TYPE: DNA 288 <213> ORGANISM: Artificial Sequence 290 <220> FEATURE: 291 <223> OTHER INFORMATION: Description of Artificial Sequence: cDNA synthesis 292 primer 294 <400> SEQUENCE: 9 295 ttttgatcaa gctt 14 298 <210> SEQ ID NO: 10 299 <211> LENGTH: 42 300 <212> TYPE: DNA 301 <213> ORGANISM: Artificial Sequence 303 <220> FEATURE: 304 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA Adaptor 1 306 <400> SEQUENCE: 10 307 ctaatacgac tcactatagg gctcgagcgg ccgcccgggc ag 42 310 <210> SEQ ID NO: 11 311 <211> LENGTH: 40 312 <212> TYPE: DNA 313 <213> ORGANISM: Artificial Sequence 315 <220> FEATURE: 316 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA Adaptor 2 318 <400> SEQUENCE: 11 319 gtaatacgac tcactatagg gcagcgtggt cgcggccgag 40 322 <210> SEQ ID NO: 12 323 <211> LENGTH: 22 324 <212> TYPE: DNA 325 <213> ORGANISM: Artificial Sequence 327 <220> FEATURE: 328 <223> OTHER INFORMATION: Description of Artificial Sequence: PCR primer 1 330 <400> SEQUENCE: 12 22 331 ctaatacgac tcactatagg gc 334 <210> SEQ ID NO: 13 335 <211> LENGTH: 22 336 <212> TYPE: DNA 337 <213> ORGANISM: Artificial Sequence 339 <220> FEATURE:

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/887,593

DATE: 11/27/2001 TIME: 12:40:54

Input Set : N:\Crf3\RULE60\09887593.txt
Output Set: N:\CRF3\11272001\1887593.raw